



DEPARTMENT OF HEALTH
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April 15, 1991

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**DIVISION OF
OIL GAS & MINING**

Mr. Dave Beatty
Environmental Coordinator
Barrick Mercur Gold Mine
P.O. Box 838
Tooele, Utah 84074

RE: Dump Leach No. 3 Ground Water Quality
Data, Ground Water Discharge Permit No.
UGW450001.

Dear Mr. Beatty:

We have reviewed the Third Quarter Background Ground Water Quality Monitoring QA/QC Report, dated February, 1991, as prepared by Dames & Moore, and three ground water quality data reports from Barrick dated December 11, 1990, January 10, 1991, and February 13, 1991.

After review of these documents we have noted several points which must be addressed in future sampling and reporting, as follows:

1. Dates of Sampling and Receipt by Laboratory - Part I G 3 of the permit requires each monitoring submittal to include both the date of sampling and the date of receipt of the sample by the laboratory. For ease of review we request that both these dates be placed on the original laboratory reports you submit.
2. Date of Laboratory Analysis - the date of analysis is required by the permit (Part I G 3) in order to confirm analysis before expiration of the holding time specified in the approved Sampling QA/QC Plan (Permit, Appendix A, Table D-1). On future monitoring reports, please indicate the date that each parameter was analyzed by the laboratory.
3. Reporting Limit - the permit requires Barrick to provide the reporting limit for each examination made (Part I G 3). This means that the minimum detection limit (MDL) for each parameter must be reported with the concentration detected.

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4. Ion Balance - analyses that will be accepted by the Executive Secretary for determination of compliance and background ground water quality will have an ion balance of +/- 5%. This is the most liberal criteria of those specified in Standard Methods for the Examination of Water and Wastewater (17th Ed., p.1-20, 1990). This criteria must be added the list of activities requiring corrective action, on page 15 of the approved Sampling Plan (Permit, Appendix A, Section 12.0). In addition, three samples from the above mentioned reports have failed this criteria, including two samples from well MW-10, collected on November 14, 1990 and December 1, 1990 (duplicate); and on sample from well MW-11 collected on November 30, 1990. Please be advised that samples failing the ion balance criteria will not be accepted for determination of compliance with the permit or for background ground water quality. In future sampling, such an excess of the ion balance must require resampling or reanalysis if the holding time has not expired.
5. Trip Blanks - three trip blanks were measured with concentrations of nitrate-nitrogen within an order of magnitude of ground water samples collected during the same sampling episode. These include the following:

<u>Date of Blank</u>	<u>Trip Blank Concentration</u>	<u>Well No.</u>	<u>Date of Sample</u>	<u>Well Sample Concentration</u>
11/1/90	0.02 mg/l	MW-10	10/31/90	0.02 mg/l
12/1/90	0.23 mg/l	MW-10	12/1/90	0/08 mg/l
		MW-11	11/30/90	0.96 mg/l
		MW-13	12/1/90	<0.01 mg/l
1/8/91	0.05 mg/l	MW-10	1/7/91	<0.01 mg/l
		MW-13	1/7/91	0.18 mg/l

Contrary to the statement made on page 5 of the Third Quarter QA/QC Report, this constitutes cause for resampling or reanalysis as per Section 12.0 of the approved Sampling Plan (Permit, Appendix A, pp.14-15). However, it appears that no corrective action was undertaken by Barrick to remedy this problem. Please be advised that the Executive Secretary will not accept the results of these analyses for nitrate-nitrogen in determination of either compliance with the permit or for background ground water quality.

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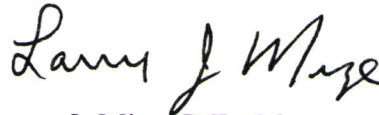
6. Equipment Blanks - two equipment blanks were found to contain concentrations of contaminants in excess of the concentrations found in ground water samples collected during the same sampling episode, these include:

<u>Date of Blank</u>	<u>Contaminant and Concentration</u>	<u>Well No.</u>	<u>Date of Sample</u>	<u>Well Sample Concentration</u>
12/1/90	Copper, dissolved 0.075 mg/l	MW-10 MW-11 MW-13	12/1/90 11/30/90 12/1/90	0.055 mg/l 0.058 mg/l 0.063 mg/l
12/28/90	Barium, dissolved 0.065 mg/l	MW-10 MW-11	12/27/90 12/28/90	0.048 mg/l 0.043 mg/l

Barrick must identify the source or cause of this contamination of the equipment blanks and correct it before any future sampling.

If you have any questions or comments, please contact Loren Morton at 538-6146. We appreciate your continued cooperation.

Sincerely,



Larry J. Mize, P.E., Manager
Ground Water Protection Section
Bureau of Water Pollution Control

cc: George Condrat, Dames & Moore
Wayne Hedberg, DOGM
Myron Bateman, Tooele County Health Dept.

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